PROGRESS

OF

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

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AN ADDITION TO THE THERAPEUTICS OF EPILEPSY.

Almost countless drugs and combinations of drugs have been used in the treatment of epilepsy, with the result that the various bromides, either singly or combined, have so far given the best results in relieving this distressing disease. DR. CHARLES S. POTTS has sought some drug which would be equally efficacious in lessening the number of epileptic seizures and at the same time not cause the disagreeable symptoms which may follow the persistent use of the bromides. With this end in view various drugs, as antipyrine, antifebrin, and bromide of ammonium were separately tried, but with indifferent results until Dr. H. C. Wood suggested the use of antipyrine and bromide of ammonium in combination. Since then this mixture has been used with excellent results in the treatment of forty-three cases of idiopathic epilepsy. In none did it fail to cause marked amelioration of the symptoms, and in some it gave relief when all the other commonly-used remedies had failed, and in none has there been any indication of bromism, or of the disagreeable symptoms to which antipyrine sometimes gives rise.

For adults the dose, which is given three times a day, contains six grains of antipyrine and twenty grains of bromide of ammonium.—*University Medical Magazine*, No. 1, vol. iii., 1890.

ANÆSTHETICS IN NATURAL LABOR.

DR. CHAIGNEAU has recently made a comparative study of the different anæsthetics which are employed in parturition. Although these agents are very numerous, attention need only be directed toward chloroform, chloral, antipyrine, and cocaine, as they are about the only ones given which it is warrantable to employ under these circumstances. Antipyrine, the author shows, has given only moderately satisfactory results; while it possesses many advantages, yet the inconvenience of requiring large doses, which are apt to prove irritating to the stomach and intestine, detracts from its value. Chloroform, on the contrary, in the author's opinion, possesses so many advantages that it is surprising that it is not more frequently employed. He claims that it has no action on the delivery or on the production of post-partum hæmorrhages, or on any of the conditions of the puerperal state. He maintains that it is indicated in all cases where suffering is excessive, where the contractions of the uterus are spasmodic, or where there is a spasmodic contraction of the cervix, where there is placental retention from uterine contraction, or where there is a rigid perineum. The only contra-indication to the use of chloroform is chloro-anæmia, with a tendency to syncope. He even maintains that acute or chronic pulmonary affections, diseases of the heart, kidneys, or of the nervous system need not interfere with the cautious administration of this anæsthetic.

Cocaine has been but little employed in such conditions. It may, however, serve to render great service in diminishing the pains which attend the passage of the head through the vagino-vulvar canal. The best results can be obtained with a five-per-cent. solution, which may be administered upon cotton tampons, allowed to remain for a few minutes, and then replaced by others. Such a procedure is even stated to accelerate labor, as, the suffering being less, the voluntary assistance rendered by the patient contributes toward hastening the termination; or, a four-per-cent. ointment may be employed, also with apparently equally satisfactory results. It should be noted, however, that sublimate injections should not be employed simultaneously, as through their action the alkaloid is decomposed and its properties are thus lost. Finally, reference is made to subcutaneous injections eight or ten minutes before the expulsion of the head. These injections may be made directly under the labia, and prevent the violent pains which generally attend the passage of the head.—*Therapeutic Gazette*, No. 11, 1890.

EXPERIMENTS UPON THE ACTION OF CHLOROFORM AND ETHER.

The conclusions of PROFESSOR MACWILLIAM, of Aberdeen, in his report to the committee of the British Medical Association, are the result of a long and elaborate investigation in which a novel method of studying the heart and vascular system was used. From his work it seems that during chloroform anæsthesia the blood-pressure is lowered and the heart's action is weakened. Thus chloroform exerts a direct influence on the heart—depressing its energy, diminishing its tone, and dilating its chambers. Such dilatation of the heart occurs to an appreciable extent even when chloroform is administered gently, mixed with abundance of air, less than four per cent., and may occur even before the conjunctival reflex is abolished. The dilatation affects all parts of the heart, more or less, and is not due to the accompanying fall of pressure from action on the vasomotor centres, or to the diminished blood-supply through the coronary arteries. Under chloroform, dilatation often occurs very quickly, before there is any fall of pressure.

There is no distinct change in the rate of the heart's action when dilatation occurs. A sudden and complete cessation of the cardiac rhythm is never caused by the inhalation of chloroform. Cardiac failure occurs by a more or less sudden enfeeblement and dilatation of the organ, not by a sudden, complete cessation of rhythm.

Cardiac failure sometimes occurs in this way a considerable time before the respiration stops, though generally the respiration stops before the heart has become incapacitated, and the failure of artificial respiration to bring about recovery, in some cases of chloroform collapse, is in all probability due mainly to the enfeebled and distended state of the heart, which has become unable to maintain the circulation.

The contrast between the relation to the heart's action of chloroform and ether in anæsthetic doses is very marked. With ether, the induction of anæsthesia with complete abolition of the conjunctival reflex has not been attended by any noteworthy dilatation; indeed, effects of a stimulating character have sometimes been observed.

Changes in the respiration exert a most important influence upon the effects of chloroform administration. An amount of chloroform which can be given with safety during easy breathing may speedily become dangerous during deep, rapid respiration; further free dilution of chloroform with air, the restriction of the percentage of chloroform vapor to four or four and one-half per cent. gives no security against an overdose. A percentage that gives safe anæsthesia during ordinary breathing may lead to fatal collapse if given during exaggerated respiration.

It is suggested that in case of fall in blood-pressure that this condition may be somewhat counteracted, in the upper portions of the body, by pressure upon the abdomen over the aorta.—*British Medical Journal*, No. 1556, 1890.

TREATMENT OF INGROWN NAIL.

Dr. Pürckhauer moistens the surface of the diseased nail with a lukewarm forty-per-cent. solution of caustic potash, and then scrapes off the softened upper layers with a sharp-edged piece of glass. After a second application of the potash solution the scraping is continued until the nail is as thin as a sheet of paper. It is then lifted up from the soft parts with forceps, and the diseased parts are excised.—*Therapeutic Gazette*, No. 11, 1890.

PREPARATION OF SACCHARIN.

℞.—Saccharin	150 grains.
Bicarbonate of soda	75 "
Distilled water	Oij

One part of this solution is equivalent to two and one-half times as much sugar.—*Nouveaux Remèdes*, No. 19, 1890.

CHLOROFORM AND PHTHISIS.

Dr. Samuel O. Potter reports that he has discovered a cure for tuberculosis in the almost continuous inhalation of chloroform. As a result of some experiments he feels convinced that this bacillus may be destroyed, and its victims saved, by the continuous use of chloroform inhalation, systematically carried on, day by day, by means of suitable apparatus, and with the care necessary to prevent injurious results or accidental poisoning. It is not necessary to induce anæsthetic action, but the inhalation can be kept up continuously for several hours daily, and maintained short of general anæsthesia. —*New York Medical Record,* November 1, 1890.

TREATMENT OF DYSENTERY.

DR. H. A. **FAIRBAIRN** calls attention again to the advantages of irrigation of the large intestine and the thorough flushing of its contents. In the early stages the walls of the intestine are not liable to be weakened by deep ulcerations. The amount of fluid which may be safely used is three or four pints, since the capacity of the large intestine, as a rule, is about six pints. The temperature of the water, which should have been boiled or distilled, should be about 100° or 105° F., except, possibly, in the first or second administration, when quite a low temperature appears of benefit. The patients are confined to bed, are deprived as much as possible of food, except whiskey well diluted. Peptonized milk in very small quantities, not more than a quart in twenty-four hours. If the patient will take no food for forty-eight hours it is a great advantage.

The liquid preparations of beef, with their concentrated salts, are apt to be irritating. Eggs, scraped beef, or, when these are objected to, steak, roast and chop, with bread, make up the dietary.

A cathartic may be administered at the beginning of the case. If there be nausea, calomel in small and frequently-repeated doses is the drug chosen, otherwise sulphate of magnesium. Salol is then ordered, and opium in some form if the pain demands. Naphthalin and corrosive sublimate may also be employed.—*Brooklyn Medical Journal,* No. 10, 1890.

EPSOM SALTS IN THE TREATMENT OF ACUTE DYSENTERY.

Powdered ipecac is the remedy which is most frequently used in the treatment of acute dysentery, and in India large doses of it are considered the best method of attacking the disease.

There are, however, objections to be raised against the administration of large doses of ipecac in this disease. Its influence is depressing, and this action is promoted by the nausea and vomiting, and, further, the vomiting may become uncontrollable.

The disease is one which is accompanied by much nervous depression, which it is important not to increase.

After observing a number of cases in which there were marked depressing effects from ipecacuanha, DR. A. W. **LEAHY** began treating cases of acute dysentery with a saturated solution of sulphate of magnesium, following a recommendation of Bartholow's, who regards the administration of sulphate of magnesium as the most efficient treatment of this disease, particularly in the acute stage.

Dr. Leahy gives a table of nearly one hundred cases treated at Hyderabad among the poorer class of patients, the vitality of many of whom was at an exceedingly low ebb when they came under treatment. Out of ninety-five, three died; two out of these three cases were stated to have been in a moribund condition at the time of their admission to the hospital. It appears that, on an average, two day's treatment with Epsom salts is required to produce disappearance of dysenteric symptoms. The treatment subsequent to the production of this condition consists of an astringent mixture, with opium. The method of administration is to take a sufficient quantity of sulphate of magnesium to saturate seven fluidounces of water, and to this saturated solution add one ounce of diluted sulphuric acid. The dose of this is a tablespoonful every hour or two in a wineglassful of water until it operates. Sulphate of morphine may be combined with it, or starch enemata with laudanum may be employed.

Dr. Leahy claims that in the earlier stages of dysentery this saturated solution of Epsom salts acts like a charm; fever, if present, disappears; mucus and blood are wanting in the stools, which become copious, feculent, and bilious; the tenesmus ceases; the patient's anxiety diminishes; the skin acts well, and sleep follows the administration of the first few doses. It is especially in acute cases that sulphate of magnesium is so valuable; the more chronic the case becomes, the less apparent are the advantages of this method of treatment. Dr. Leahy has ordinarily given a drachm of this saturated solution with ten drops of dilute sulphuric acid every hour or two until its effects became evidenced in the feculent character of the stools and their freedom from blood and mucus, or until the temperature has fallen, and the pain and tenesmus have ceased. When the stools have become normal in color and appearance, and the patient only passes two or three in the twenty-four hours, an ordinary astringent mixture of acid with laudanum or tincture of Indian hemp, or a pill containing extract of opium, is usually all that is necessary to complete the cure. It is, of course, imperative to diet the patient with great care.

This treatment Dr. Leahy compares with that by ipecacuanha as follows: It has no depressing action on the system, it neither produces nausea nor vomiting; it quiets and soothes the patient.

In twenty-seven cases of acute dysentery among Europeans all were successfully cured.

It is peculiarly in acute dysentery that the saturated solution of sulphate of magnesium will yield such excellent results. The more chronic the case the less likely is the remedy to prove of value.—*Lancet*, No. 3501, 1890.

SULPHONAL IN DIABETES.

DR. V. CASARELLI has used sulphonal in diabetes with the following results:

Sulphonal exerts a favorable influence upon the chief symptoms of diabetes, diminishing the quantity of sugar, also the polyuria and polydipsia.

These results are obtained in a moderate degree by a dose of 15 to 30 grains *pro die*. They are more marked with a dose of 45 grains, which may be given for several days; 30 grains is well borne for a longer time, 45 grains creates no disturbance at first, but if persisted in for a time produces dizziness and excessive somnolence, which disappear upon the reduction of the dose.

The favorable effects of sulphonal are as evident with a mixed diet as with a strict meat diet; in the latter sugar was found in great quantity in the urine after sulphonal had been suspended.

In the same cases antipyrine was tried before sulphonal, but the effect produced by antipyrine was less marked than that by sulphonal.—*Medicinische-Chirurgische Rundschau,* Heft 20, 1890.

MEDICINE.

UNDER THE CHARGE OF

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THE SECRETION OF HYDROCHLORIC ACID IN THE STOMACH DURING DIGESTION.

V. JAKSCH (*Zeitschr. f. klin. Med.,* B. 17, H. 5, 383) has devoted his attention to the determination of the exact amount of hydrochloric acid present during different periods of digestion. He describes the method of analysis which he employs, and which consists in a modification of that of Sjogvist's. This is a gravimetric method, in which the hydrochloric acid is caused to unite with barium, and the barium then recovered in the form of the sulphate and weighed.

A series of experiments were performed on each of a number of children who presented no disturbances of digestion. A definite amount of nourishment was administered in the morning on an empty stomach, and the contents of the stomach later removed by the method of expression after the lapse of intervals of time varying one-quarter of an hour in the different experiments. The amount of hydrochloric acid present in 10 c. c. of the unfiltered gastric contents was in each instance determined; the author having found that the filtered contents lost considerably in the amount of acid. He details his observations proving this loss.

Series of observations were made by administering respectively boiled ham, boiled milk, and purely hydrocarbonaceous food. All the experiments are reported in full.

The principal results of these studies are the following:

1. Within one-quarter of an hour after the administration of nourishment the stomach has produced an appreciable quantity of hydrochloric acid, and this amount increases until it reaches its maximum from one to three hours after food is taken.

2. The secretion of the acid does not constantly increase, but may, after one and a quarter to two hours, show intermissions.

3. The amount secreted increases most rapidly after the ingestion of flesh; more slowly after milk. This is doubtless due to the property milk has of forming compounds with hydrochloric acid; and this fact also explains the